

TASK IS NOT DIFFICULT

Building of Canal Comparative-ly Easy for American Engineers.

THE SOFT SOIL TO DIG IN

The Locks Are Only Serious Problems That Confront Constructors of the Canal.

BY MERRILL A. TEAGUE.
(Special Correspondence of The Times-Dispatch.)

COLON, R. P., Dec. 23.—There is nothing in the nature of the work which has to be done on the Isthmus before the ship canal can be opened to navigation to daunt an American. I have made three excursions over the canal route, taking in the sea level sections at either end and the middle portion, which runs through dry cutting, and, while I do not pretend to speak expertly of the engineering aspects of the problem, I should say that the building of the canal will be a comparatively easy task for knowing, enterprising and energetic Americans. That Americans have undertaken and successfully concluded projects presenting vastly greater engineering complexities is indisputable. As a problem in engineering science the New York subway system dwarfs the canal scheme into insignificance. So does the plan of the Pennsylvania Railroad to tunnel the North River and construct in the very heart of New York city one of our western railroads—notably on the line which runs over Marshall Pass, in Southwestern Colorado—infinitely more intricate problems were successfully solved at a time when engineering science was not nearly as exact as it is to-day, and when the point of view, New York State is to-day dealing with a project—the enlargement of the Erie Canal—which deserves to stand on a plane with that one which centers here.

As I remarked in a previous letter, the activity of the American engineers who have dealt with this problem with a view to its solution by the United States has been in the direction of simplification. Great success has attended their efforts. In our scheme we have gone many strides ahead of anything contemplated, even in their final plan. With five locks and six levels, we shall build a waterway with two sets of locks, a tide gate and three levels. Instead of a complicated arrangement for controlling the torrential flow of the Chagres River, with auxiliary canals and storage reservoirs, our plan is to build one monster dam and then let the natural swamps take care of the Chagres.

THE AMERICAN PLAN.
Should we build this canal nearly every Isthmian will die of disappointment should we flunk on the project which incubated this baby republic—there will be a sea level section 600 feet wide on the surface, 150 feet wide on the bottom and deep enough to safely accommodate vessels drawing 35 feet of water. This section will be a simple matter of excavation, extending from the northern terminus, to Bohio, a distance of 14 miles. In this section we will utilize the bed of the Chagres River at certain points, and the entire section can be constructed by the dredging process. The section now open for its entire length to very light draft vessels, and the soil underlying it is soft mud and still softer alluvial deposit, so that the dredges can work steadily and without encountering any serious obstruction. One problem alone presents itself on this portion of the work, and the French have partially solved it. We shall have to make effective the plan to divert the current of the Mindi and Gatun Rivers. The French constructed the diversion canal; it remains for us to put it to practical use by making it carry the water of these rivers. This done—and the doing of it will be a simple matter—there will be no difficulty encountered beyond that of preventing alluvial deposits that might obstruct the channel. This latter will entail constant dredging, an item which will come within the annual cost of maintenance and which engineers are now paying no attention.

THE GREAT BOHIO DAM.
The plan for the Bohio dam will, beside greatly simplifying the whole canal project, minimize the amount of work that will annually be required to keep the sea level section from being filled up by the action of the river. The dam will be a simple matter of excavation, extending from the northern terminus, to Bohio, a distance of 14 miles. In this section we will utilize the bed of the Chagres River at certain points, and the entire section can be constructed by the dredging process. The section now open for its entire length to very light draft vessels, and the soil underlying it is soft mud and still softer alluvial deposit, so that the dredges can work steadily and without encountering any serious obstruction. One problem alone presents itself on this portion of the work, and the French have partially solved it. We shall have to make effective the plan to divert the current of the Mindi and Gatun Rivers. The French constructed the diversion canal; it remains for us to put it to practical use by making it carry the water of these rivers. This done—and the doing of it will be a simple matter—there will be no difficulty encountered beyond that of preventing alluvial deposits that might obstruct the channel. This latter will entail constant dredging, an item which will come within the annual cost of maintenance and which engineers are now paying no attention.

The French, in prospecting the country about Bohio to secure a suitable location for the dam, did their work in a wholly different manner. Their borings were wholly inadequate, and Americans have not gone sufficiently into the matter to have bettered to any appreciable extent what the French did. As investigation on this particular detail now stands, to a depth necessary in order to secure a suitable foundation for the dam. This depth is greater than has yet been reached by the pneumatic process—the only available one of constructing to a depth of 115 feet, to which the caissons for the new Williamsburg Bridge across the East River, at New York, were sunk. Caisson work is clearly in its infancy, and while the engineers are confident that the caissons at Bohio can be sunk 125 feet, if necessary, they are equally confident that a secure foundation can

TRAGLE'S GREAT SALE!

"CROWDED TO THE DOORS."—Owing to the large crowds all of last week, we will continue our "SEVENTH ANNIVERSARY SALE" all of next week. Sale to close Saturday, January 30th, 11:30 o'clock P. M. Remember, this is your last chance to get Medicines and Toilet Articles lower than any time in our history. Call and see how the TRAGLE System—the most up-to-date "Drug House" in the South—are doing business. Remember, during this sale we will not sell more than two (2) articles of each kind to a Customer. Here are a few of our prices:

30th, 11:30 o'clock P. M. Remember, this is your last chance to get Medicines and Toilet Articles lower than any time in our history. Call and see how the **TRADE SYSTEM** the most up-to-date "**Drug House**" in the South—are doing business. Remember, during this sale we will not sell more than two (2) articles of each kind to a Customer. Here are a few of our prices:

MEDICINE DEPARTMENT.

11 Munyon's Paw-Paw..... 71c
50c Lepanto Pills, 100 in bottle, 28c
11 Peruna..... 03c
50c Hunyadi Water..... 17c
11c Fellow's Hypophosphites..... 09c
11c Wampole's Tasteless Cod Liver Oil..... 05c
50c One ounce Best German Quinine..... 08c
11c Best 2-grain Quinine Pills, per dozen..... 3c
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